Water Resources Workgroup
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WorkGroup Participants:
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Purpose:
To identify stressors, sources, and ecological effects associated with aquatic resource components in the NCR that have been described at a fine enough resolution to lead to the identification of vital sign indicators to move towards the development of a regional monitoring plan.

Outcomes:
(1) Develop a list of aquatic resource components in NCR.
(2) For each resource component, identify stressors, sources of stress, and ecological effects of each threat.

Components
What is NCR trying to preserve? What are the important natural resources?
For the Anacostia, COG has 6 general categories. The SAC water resources workgroup brainstormed the following (to which can be added others from the COG list):

- Fish
  - historic (serve as a baseline)
  - Current
  - Lifecycle (anadromous, etc.)
- Benthos
  - Lentic
  - Lotic
- Herps
- Vegetation
  - wetlands
  - Channel
  - Riparian/floodplain
- Land-use/watershed
- Precipitation
- Water
  - quantity
  - Quality
  - groundwater
- Physical habitat
- Riparian zone/floodplain

Land use is also a source of downstream impacts such as erosion, change in flood regime, and sedimentation.
The watershed could be seen as the encompassing whole in which more specific components occur or are grouped.

Stressors and Sources see table 1

Ecological Effects (consider reversibility, extent, severity):

Reduction in biodiversity
Change in ratio of generalists to specialists
Increase in tolerant species and decrease in intolerant species
Increase in non-native species
Increased impairment of water quality, water supply, and physical habitat (ie algal blooms), including alteration of range and frequency of disturbance
Increase in less desirable species
Decrease buffer / filter capacity

Next Steps:

(1) By resource component, list out ecological effects of each stressor.
(2) Diagram in Excel spreadsheet Stressors vs. Source
(3) List of trouble spots in need of research, perhaps as a three-dimensional graph?

Resource Component	***Stressor***	***Sources***	***Ecological Effects***	***Severity of Threat*** *(High – Medium – Low - Unknown)*	***Indicator/Vital Sign***
Fish historic (serve as a baseline) Current Lifecycle anadromous, etc.)	Trash, Flow Regime, Water Quality, Physical Habitat, Deforestation, Energy cycle Disruption, Introduced Species, Climate Change, Wildlife Behavior Disruption	See Table	Reduction in biodiversity, Change in ratio of generalists to specialists, Increase in tolerant species and decrease in intolerant species, Increase in non-native species, Increase in less desirable species		
Benthos, Lentic, Lotic	Trash, Flow Regime, Water Quality, Physical Habitat, Deforestation, Energy cycle Disruption, Introduced Species, Climate Change, Wildlife Behavior Disruption	See Table	Reduction in biodiversity, Change in ratio of generalists to specialists, Increase in tolerant species and decrease in intolerant species, Increase in non-native species, Increase in less desirable species		
Herps	Trash, Flow Regime, Water Quality, Physical Habitat, Deforestation, Energy cycle Disruption, Introduced Species, Climate Change, Wildlife Behavior Disruption	See Table	Reduction in biodiversity, Change in ratio of generalists to specialists, Increase in tolerant species and decrease in intolerant species, Increase in non-native species, Increase in less desirable species		
Vegetation wetlands, Channel, Riparian/floodplain	Trash, Flow Regime, Water Quality, Physical Habitat, Deforestation, Energy cycle Disruption, Introduced Species, Climate Change, Wildlife Behavior Disruption	See Table	Reduction in biodiversity, Change in ratio of generalists to specialists, Increase in tolerant species and decrease in intolerant species, Increase in non-native species, Increase in less desirable species		
Land-use/watershed	Trash, Flow Regime, Water Quality, Physical Habitat, Deforestation, Energy cycle Disruption, Introduced Species, Climate Change, Wildlife Behavior Disruption	See Table	Increased impairment of water quality, water supply, and physical habitat (ie algal blooms), including alteration of range and frequency of disturbance, Decrease buffer / filter capacity		

Physical habitat	Trash, Flow Regime, Water Quality, Physical Habitat, Deforestation, Energy cycle Disruption, Introduced Species, Climate Change, Wildlife Behavior Disruption	See Table	Increased impairment of water quality, water supply, and physical habitat (ie algal blooms), including alteration of range and frequency of disturbance, Decrease buffer / filter capacity		
Riparian zone/floodplain	Trash, Flow Regime, Water Quality, Physical Habitat, Deforestation, Energy cycle Disruption, Introduced Species, Climate Change, Wildlife Behavior Disruption	See Table	Increased impairment of water quality, water supply, and physical habitat (ie algal blooms), including alteration of range and frequency of disturbance, Decrease buffer / filter capacity		
Precipitation		See Table	Decrease buffer / filter capacity		
Water quantity, Quality groundwater	Trash, Flow Regime, Water Quality, Physical Habitat, Deforestation, Energy cycle Disruption, Introduced Species, Climate Change, Wildlife Behavior Disruption	See Table	Increased impairment of water quality, water supply, and physical habitat (ie algal blooms), including alteration of range and frequency of disturbance, Decrease buffer / filter capacity		

	Agriculture (GMO)				
	Pest Management (Pesticide use including lawn care, forest pest management, other)				
	Collecting				